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ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

UNLOCKING THE POTENTIAL: MEDIATING EFFECT OF CUSTOMER ENGAGEMENT AND ONLINE SHOPPING MOTIVATION ON MMO PLAYERS' WILLINGNESS TO PAY MORE

POTANSİYELİ KEŞFETMEK: MÜŞTERİ BAĞLILIĞI VE ONLINE ALIŞVERİŞ MOTİVASYONUNUN MMO OYUNCULARININ DAHA FAZLA ÖDEME İSTEKLİLİĞİ ÜZERİNDEKİ ARACILIK ETKİSİ

Selim ÇAM*

Abstract

This study aims to investigate the effect of MMO players' addiction levels on their willingness to pay. It examines this effect by mediating online shopping motivation and customer engagement variables. The impact of environmental factors on willingness to pay, even when the level of dependency remains fixed, has been investigated with online shopping motivation and customer engagement. We collected data on the attitudes and perceptions of online game participants through a questionnaire. Data suitable for the study were obtained from 772 people. According to this sample size, the power of the study was calculated as 96.5%. After the participants' demographics were explained, the analyses were performed with SEM. The results confirm that willingness to pay is affected by the level of online game addiction. Among online shopping motivations, early adoption, stimulation-seeking, and customer engagement variables, both separately and together, increase consumers' willingness to pay. This paper provides a clear view on behaviour of an increasing number of online gamers by examining the purchasing and payment behaviour of MMO players.

Keywords: Online Game Addiction, Structural Equation Model, Willingness to Pay More, MMO Games, Customer Engagement, Consumer Behaviour

* Sivas Cumhuriyet University, Social Sciences Vocational School, scam@cumhuriyet.edu.tr, ORCID: 0000-0002-6131-2871

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Öz

Bu çalışma, MMO oyuncularının bağımlılık düzeylerinin ödeme isteklilikleri üzerindeki etkisini araştırmayı amaçlamaktadır. Bu etki, çevrimiçi alışveriş motivasyonu ve müşteri bağlılığı değişkenlerinin aracılığı ile incelenmektedir. Çevresel faktörlerin ödeme istekliliği üzerindeki etkisi, bağımlılık seviyesi sabit kalsa bile, çevrimiçi alışveriş motivasyonu ve müşteri bağlılığı ile araştırılmıştır. Online oyun katılımcılarının tutum ve algılarına ilişkin veriler çevrimiçi anket aracılığıyla toplanmıştır. Çalışmaya dahil edilen katılımcı sayısı 772 kişi olarak belirlenmiştir. Bu örneklem büyüklüğüne göre çalışmanın gücü %96,5 olarak hesaplanmıştır. Katılımcıların demografik özellikleri açıklandıktan sonra analizler YEM ile gerçekleştirilmiştir. Sonuçlar, ödeme istekliliğinin çevrimiçi oyun bağımlılığı seviyesinden etkilendiğini doğrulamaktadır. Online alışveriş motivasyonları arasında erken benimseme, uyarım arayışı ve müşteri bağlılığı değişkenleri hem ayrı ayrı hem de birlikte tüketicilerin ödeme istekliliğini artırmaktadır. Bu makale, MMO oyuncularının satın alma ve ödeme davranışlarını inceleyerek, giderek artan sayıda çevrimiçi oyuncunun davranışları hakkında net bir görüş sunmaktadır.

Anahtar Kelimeler: Çevrimiçi Oyun Bağımlılığı, Yapısal Eşitlik Modeli, Daha Fazla Ödeme İstekliliği, MMO Oyunlar, Müşteri Bağlılığı, Tüketici Davranışı

1. Introduction

The video game market, valued at $95B in 2022, is the second most profitable market in digital media (Statista, 2023). Demographics of the video game market show that the average age of a gamer is 35, 52% of these gamers subscribe to at least one gaming service, Asia is the biggest gaming market with 1.6 billion players, and the ratio of male/female gamers globally is close to 50:50 (DataProt, 2023). It is also known that families are increasingly playing video games and taking advantage of their ability to keep family members together. A report created by ESA (The Entertainment Software Association) suggested that "*sixty-one percent of players say video games have helped them stay connected with their family, and 77 percent of parents regularly play video games with their children*" (ESA, 2022).

MMO (Massively Multiplayer Online) games are a strong alternative in the gaming market, becoming one of adolescents' most prominent leisure activities (Duman & Ozkara, 2021). It is generally played by large groups of customers in different locations simultaneously, enabling them to interact in the gaming world (Rong, Ren & Shi, 2018). Players who opt for this ecosystem choose a graphical avatar and equip it with virtual accessories available for sale in the game (Wu, Chen & Cho., 2013). They can also communicate with other players, thus forming friendships and engaging in joint purchasing behaviour (Kim et al., 2008).

The capacity of digital interactive platforms to create value depends on their ability to unite their customers and suppliers in an ecosystem (He & Zhang, 2022). Studies measuring the behaviour of gamer consumers from various angles are seen in the literature (Jimenez et al., 2019; C. Lee, Aiken & Hung, 2012; Park & Lee, 2011). One of these behaviours is game addiction behaviour, and study on this type of addiction is a relatively new area of psychological study. The origins of game

addictive behaviours lie in the discovery of the link between media tools and changes in user modes (Carpentier et al., 2008) and the manipulation of user tendencies (Ferguson & Rueda, 2010).

MMO games can be addictive for people whose psychological characteristics and/or life circumstances make them vulnerable to behavioural addictions (Charlton & Danforth, 2010). The main reason for this is that video games allow people to get away from the problems of daily life and surround them with a fantasy world that they cannot have due to the limitations imposed by their personalities (Barnett & Coulson, 2010). Balakrishnan & Griffiths (2018) reported that there is a positive relationship between in-game purchasing behaviour and game addiction and that game addiction is influenced by loyalty to the game. Another study with parallel findings showed that addiction to online mobile games positively affects player loyalty to these games, and it positively affects in-game feature purchases in online mobile games (Yasir & Agus, 2021). Abbasi et al. (2021) showed in another study that dedication, absorption, conscious attention, and enthusiasm in consumer video game participation significantly predicted consumer video game addiction; however, social connection and interaction in consumer video game participation did not significantly affect video game addiction. The finding regarding player engagement in this study aligns with the results presented by Charlton (2002), which showed the correlation between high player engagement and addiction to computer games.

Since this study focuses on purchase behaviours, engagement is used as customer engagement instead of player engagement, consistent with Cheung et al. (2015). Here, customer engagement is a new perspective that provides a holistic view of how customers' interactive experiences with organisations create value for both parties (McDonald et al., 2022). There are several studies on the psychological engagement of the player (Abbasi et al., 2021; Charlton & Danforth, 2010; Kuss, 2013) and even theoretical studies on customer engagement in sports organisations (McDonald et al., 2022).

MMO Games, one of the preferred game genres in e-sports competitions, represent a coherent virtual world where people play games in cooperation and competition with each other and with characters created in that game (Hansen, Shneiderman & Smith, 2011). Although they are typically seen as games, their socially solid aspects suggest that they are a type of online communication tool where players interact to build friendships, form communities, and work together to achieve various goals (Barnett & Coulson, 2010). MMO games are online games consisting of guilds, tribes, or teams, sophisticated collaboration tools, live audio broadcasts that allow these groups to communicate, and incentives for players to purchase items needed to increase their achievements (Hansen, Shneiderman & Smith, 2011). Moreover, MMO games are a niche genre where players make the most purchases among other game genres (Ye & Shih, 2022). Therefore, MMO games are a kind of online brand and an ecosystem that turns players into online brand communities of this brand (Badrinarayanan, Sierra & Taute, 2014). Many studies on addiction to MMO games exist in the literature (Billieux et al., 2015; Hussain, Griffiths & Baguley, 2012; Kuss, Louws & Wiers., 2012). Another perspective that MMO games are highly preferred and will create a strong market structure in terms of marketing

is that a customised scale of addiction to these games has been developed (Z. W. Y. Lee, Cheung & Chan et al., 2015). Nevertheless, it is thought that there is a considerable literature gap to support the continuation of studies on the factors affecting this addiction.

MMO games are a type of virtual retailer, and MMO game participation behaviour leads players to develop the motivation to shop at these virtual retailers (Hota & Derbaix, 2016). Customers of these virtual retailers establish reference group affiliation with each other (Rohm & Swaminathan, 2004) and engage in price negotiation with the site, looking for the appropriateness of the prices offered by the site (Levy & Gvili, 2020), and look for exciting stimuli to be provided by the virtual store (Rohm & Swaminathan, 2004). In addition, these players, who can also be considered regulars of MMO games, are socially integrated with the MMO games' community and have a high potential to become opinion leaders in this sense (Vrechopoulos, Siomkos & Doukidis, 2001).

Today, the fact that the world's leading online gaming platform, such as Steam, indexes its sales to the dollar suggests how variable and complex it is to control pricing decisions. In the literature, many studies have focused on developing pricing strategies and payment models for MMO games (Gyuhwan & Taiyoung, 2007; Nojima, 2007; Ren et al., 2020). However, the shift from pay-to-play to free-to-play games, where players are willing to pay voluntarily for accessories and items instead of being forced to pay, has positively affected player and customer engagement (Gyuhwan & Taiyoung, 2007; Nojima, 2007). In addition, players' price perceptions affect their purchase decisions in online games (Sinaga, 2021). Since the items in online games are often sold in bundles and it is thought that price familiarity will develop in players due to the network between players, it is believed that this situation will also be valid for items in MMO games. In addition, price consciousness moderates consumers toward price discounts and premium deals offered during purchases (Palazón & Delgado, 2009).

Industry reports show that favouring players' willingness to pay over traditional purchase-oriented games increases total revenue generated (Wu, Chen & Cho, 2013). Furthermore, the diversification of game accessories, such as clothing and weapons, will also have a positive impact on players' commitment to the game, and the pricing of accessories according to customers' perception (i.e., value-informed pricing) will also strengthen the tendency of digital gamers to network (Rong, Ren & Shi, 2018). This fact would strengthen the social influence of the MMO on the player, which has a complex relationship with individuals' willingness to pay (A. Setterstrom & Pearson, 2019). Therefore, an increase in the number of participants in the game will lead to a rise in the number of consumers of a product or service (i.e., MMO platform users), leading to the network externality described by Xu et al. (2017). It is expected that the player's enjoyment of the game will increase. Thus, the intention to continue playing the game increases the intent to purchase in-game, according to Hamari (2015). Online games use freemium strategies to increase users' willingness to pay, and by using this strategy, they should aim to turn consumers who are not willing to pay in their favour (Deng et al., 2022).

In this study, willingness to pay is examined in the context of socio-demographic data and purchasing behaviours, and the relationship between MMO players' online game addiction (OGA) and willingness to pay more (WTPm) is analysed with mediating variables such as online shopping motivation (OSM) and customer loyalty (CE). Thus, the study aims to reveal the multi-layered mediation effects between game addiction and willingness to pay by investigating how OSM and CE mediate the change in MMO players' game addiction levels. It fills a gap in the literature by providing a deeper understanding of the factors that influence MMO players' willingness to pay. By examining the impact of psychological and motivational factors such as game addiction and consumer loyalty on in-game purchase behaviours in the context of freemium strategies, strategic insights will be provided for the gaming industry and marketing professionals. Furthermore, by testing multilevel mediation models, which are rarely discussed in the literature, a new perspective on the relationship between game addiction and willingness to pay is provided.

In the following sections, previous research is first reviewed and aligned with the key constructs of this study that influenced the development of a conceptual model. The hypothesis development and design of the field study are then described, followed by an examination of its main findings. The implications of this study are then outlined in the Discussion section, concluding with a summary of the limitations and future research directions.

2. Conceptual Framework and Hypothesis Development

2.1 Online Game Addiction (OGA)

Playing online games is generally seen as a behaviour that can turn into addiction (Triberti et al., 2018). One of the possible reasons for this may be the players' choice of online games as the environment where they create a social identity for themselves and the fear of missing the developments in this world (Duman & Ozkara, 2021). Overly attaching to computers leads them to have problems in their personal relationships and work/family lives, and they even neglect everything that is observed in their lives other than the game (Kaya et al., 2023). Although different types of games continue their activities in the internet environment, MMO, one of these game types, has attracted significant attention in the literature on game addiction (Blinka & Smahel, 2007; Caplan, Williams & Yee, 2009; Kuss, Louws & Wiers, 2012). The convergence of Internet technologies with the gaming industry has led to the interpretation of gaming addiction as a type of online game addiction (OGA). Griffiths (2010) argues that OGA should be characterised by how much excessive gaming negatively affects other areas of players' lives rather than the time spent playing.

Although there is no study investigating the relationship between OGA and online shopping motivations (OSM) in the literature (to the best of our knowledge), there are studies that address addiction and shopping motivations together. It is seen in the literature that a study deals with internet addiction and online shopping together (Köksal, 2015). In addition, there are studies associating

addiction with peer affiliation (Aff) (Wang et al., 2020), early adoption (EA) (al'Absi, Ginty & Lovallo, 2021), stimuli-seeking (SS) (Jauk & Dieterich, 2019). Some studies examine shopping addiction and online shopping (Sohn & Choi, 2014) and game addiction with mobile in-game shopping (Yasir & Agus, 2021). Thus, it was proposed that:

H1-H4: The OGA variable has an effect on the sub-dimensions of the OSM scale (Aff, EA, PN, SS).

Consumer engagement (CE) with video game addiction is a topic studied in the literature (Abbasi et al., 2021; Yasir & Agus, 2021). In addition, the relationship between the continuity of playing video games and customer engagement has also been investigated in the literature (Laurence et al., 2023), as well as the effect of providing a streaming experience during this continuity on addiction (Chou & Ting, 2003). The psychological consequences of continued engagement are also observed in the literature (Krossbakken et al., 2018; Loton et al., 2016; Moge & Romano, 2020).

There are studies that analyse addiction and willingness to pay (WTP) together (Olsen, Røgeberg & Stavem, 2012). In terms of game addiction, few studies handle only loyalty and online addiction (Lu & Wang, 2008), as well as some studies that address both loyalty towards mobile games and in-app purchase intention together (Lestari, Nitisanjaya & Susanto, 2023; Putra & Wahyudi, 2022). In addition, one study investigated the factors affecting the willingness to pay premium (WTPm) in MMO games (Rezaei & Ghodsi, 2014).

2.2. Online Shopping Motivations (OSM)

Online shopping involves searching for and purchasing products or services (Varma & Agarwal, 2014). Typically, online shoppers do not behave the same way in shopping patterns and behaviour; they are more interested in convenience, willing to pay extra to save time, and do not like regular shopping (Ganesh et al., 2010). A study on online wine sales also determined that convenience, broader selection ability, availability, and price are motivational factors for online shopping (Santos & Ribeiro, 2012).

Some studies classify online shopping motivations in different ways. In one of these studies (Rohm & Swaminathan, 2004), it was suggested that there are four different online shopping motivations: convenience shopper, store-oriented shopper, balanced buyer, and variety-seeker. Although a study classifies gamer behaviours in terms of motivational aspects (F.-C. Tseng, 2011), to our knowledge, we have not encountered a study to investigate the online shopping motivations of MMO players. Four of the online shopping motivations [affiliation (Aff), early adoption (EA), price negotiation (PN), and stimulation-seeking (SS)] proposed by Ganesh et al. (2010) were selected and used in the present study to evaluate the shopping motivations of MMO players and make a concrete contribution to the literature. Among these variables, "Aff" was chosen because MMO players interact with each other through the platform, "EA" because MMO players adopt online shopping as it allows them to learn and adopt new products, "PN" because MMO players can be offered customised price offers

for in-game purchases and players can request discounts, and "SS" because players are interested in exciting offers from the website.

While shopping motivation (hedonic and utilitarian) has been included in consumer research with its moderator role (Khajehzadeh, Oppewal & Tojib, 2014; Wenzel & Benkenstein, 2018), there is also a study investigating the moderator role of this concept in online purchasing behaviour (Khajehzadeh, Oppewal & Tojib, 2014). Although a mediating effect of online shopping motivation on its sub-dimensions could not be observed (to the best of our knowledge), a study investigating the mediating effect of online shopping motivation as a whole variable was observed in the literature (Rahman et al., 2021). Thus, it was proposed that:

H5-H9: The subdimensions of the OSM scale (Aff, EA, PN, SS) affect the CE variable.

H10-H13: The OGA variable affects the CE variable mediated by sub-dimensions of the OSM scale (Aff, EA, PN, SS).

H14-H17: The subdimensions of the OSM scale (Aff, EA, PN, SS) affects the WTPm variable mediated by the CE variable.

2.3. Customer Engagement (CE)

CE can reflect consumers' mental state of value co-creation and interaction with the brand and the degree of nesting between consumers and the brand (He & Zhang, 2022). Engaged customers provide company feedback, and the information obtained from that feedback can influence new customers to join the company (Kumar & Pansari, 2016). Online brand communities are vital sustainability arguments for MMO games in providing player interaction and cooperation and ensuring that the game continues to be played (Badrinarayanan, Sierra & Taute, 2014).

Engaging customers in an interactive environment has become a strategic imperative to attract customers, nurture customer-brand relationships, and increase the profitability of platforms (Gligor, Bozkurt & Russo, 2019). Given this trend, gaming firms have to nurture gamers' engagement in gaming firms to increase profit (Kim & Rao, 2022). MMO games are essential for brands, and brand-specific concepts are measured in the context of these games (Badrinarayanan, Sierra & Taute, 2014; Sierra, Badrinarayanan & Taute, 2016). Moreover, the nomological relationship between brand interaction and CE has been shown (France, Merrilees & Miller, 2016), indicating that interaction between users in MMO games is indispensable for CE of brand communities built on these brands. Considering the behaviour of MMO players to interact with each other and communicate their purchase experiences to the game publisher and players, the current study uses the knowledge dimension of the CE suggested by (Kumar & Pansari, 2016).

In the marketing literature, the mediating role of the CE variable and its subcomponents has been used in many studies with various variables (Abbas, Gao & Shah, 2018; Gao & Huang, 2021; T. Huang, Bao & Li, 2017; Yen, Teng & Tzeng, 2020). In some of these mediations, Willingness-to-Pay

(WTP) (Tu, Neuhofer & Viglia, 2018) and Willingness-to-Pay More (WTPm) (Thomas, 2023) were even determined as the final variable. There are studies investigating the relationship between OGA and video game engagement variables (Abbasi et al., 2021) and using this relationship as a mediating effect (R. Sun, G. Sun & Ye, 2023) in the game literature. Thus, it was proposed that:

H18: The OGA variable has an effect on the WTPm variable mediated by the CE variable.

2.4. Willingness-to-Pay More (WTPm) in Video Games

Willingness-to-Pay (WTP), which can be conceptualised as the maximum amount a consumer will spend to obtain a product, refers to the amount a consumer is willing to pay above the price they have paid in the past rather than just how much a consumer has typically paid for a good in the past (A. J. Setterstrom, Pearson & Guggenheim, 2018). Willingness-to-Pay More (WTPm) is also known as price premium in the literature, as it involves paying a higher price for a product or brand (Bayraktar, 2015; Netemeyer et al., 2004). If the game is not sold as a ready-made or semi-ready-made product (e.g., ready-made games, full downloads from Steam), monetisation has to rely on players' WTP for something extra (Davidovici-Nora, 2013). These additional payments often consist of unnecessary and usually dull tasks that can be skipped, paying real money (Kimppa, Heimo & Harviainen, 2016). However, in-game reasonable offers (Hsu & Lin, 2016), the player's willingness to continue playing (Hamari, 2015), in-game peer cohesion (Fang et al., 2019), and social influence, regardless of its size (A. J. Setterstrom, Pearson & Guggenheim, 2018) are essential for players' WTP and purchase virtual items. The value created with social influence was not observed in the study of Rezaei and Ghodsi (2014), but it was shown that emotional value and price-value for money affect the WTP in MMO games. In addition, as players continue to play a game for free, their WTP for future payments decreases (Hamari, 2015).

Tang & Yang (2021) reported that user community experience factors can significantly influence personal perception, and users' perceptions, such as perceived usefulness and perceived fun, can influence users' recognition of the community and possibly their WTP. In addition, in-game success largely depends on the items to be purchased (Hansen, Shneiderman & Smith, 2011), and the incentive effect of item purchases on player continuity (Yoo, 2015) indicates that MMO players will show WTPm for in-game purchases. Since the current study aims to determine MMO players' WTPm level to continue receiving services from a particular game provider, the loyalty-oriented WTPm (Jones, Taylor & Bansal, 2008) has been chosen in the present study.

Maier (2020) states that addictive behaviour from technological stimulation can affect online game players more often. There is no current literature study prepared with this approach. Thus, many factors are used in the studies to explain the change in the WTPm variable. Material and mental effects can be observed among the factors affecting consumers' decisions. At the same time, these factors can affect the WTPm decision directly or indirectly. Since the study is centred on OGA, while OGA, a relatively new concept, involves the WTPm decision of consumers, it is tried to explain

how this effect emerges. For this purpose, with the guidance of the gaps in the literature, the role of OSM and CE in the causality between OGA and WTPm is sought to be explained with the following hypotheses.

H19-H22: The OGA variable has an effect on the WTPm variable mediated by sub-dimensions of the OSM scale and CE variable.

3. Method

In this study, a multi-layered research model was used. Questionnaire method was preferred to understand the perceptions, attitudes and behaviours of consumers. The prepared questionnaires consist of two parts. The first part includes the demographic information of the participants. Frequencies and percentages were calculated to convey the general demographics of the participants to the reader (Section 3.2). The second part includes the scale statements. All scales consist of 5-point Likert statements. The participants selected the judgements of the statements on a scale ranging from 'Strongly Disagree (1)' to 'Strongly Agree (5)'. The responses to the statements were tested with appropriate statistical analyses (Section 3.3). Necessary corrections were made for the scales as a result of validity and reliability analyses. Combining the statements under the relevant scales was carried out by averaging the statements. The interactions between the variables reduced to a single scale were analysed by SEM analysis. Smart-PLS 4 software was used to perform the analysis. The results of the analysis were analysed at 95% confidence level.

The perception, attitude and behaviour measurements of the participants were carried out with the statements obtained from different academic studies. Firstly, the 'Online Game Addiction' scale in the article written by Yilmaz & Tunca (2023) was used. This scale enables the calculation of the basic addiction level of the participants. In the second stage of the model, Online Shopping Motivations (OSM) sub-dimensions developed by Ganesh et al. (2010) are included. These sub-dimensions are named as Affiliation (Aff), Early Adoption (EA), Price Negotiation (PN) and Stimulation Seeking (SS). These dimensions help to understand the participants' motivations for buying a product. In another stage of the analysis, it was aimed to understand the engagement role of the participants. In order to measure this, the Customer Engagement scale prepared by Kumar & Pansari (2016) was used. Finally, we wanted to measure the purchasing behaviour of the participants. For this reason, the Willingness to Pay More Scale prepared by Jones, Taylor & Bansal (2008) was used.

3.1. Data Collection and Sample

In the present study, fieldwork data was collected electronically rather than physically. Control steps were used in the questionnaire design and data collection phases to minimise problems experienced in collecting data from MMO players, such as bias, fake responses, and survey responses that are too few to be applicable. The data collection process started after obtaining approval from the ethics committee of a local university. Linguists analysed the items in the questionnaire to

prevent meaning change. Participants who could fill out the questionnaire were expected to respond positively to the statement, "I have paid for any MMO game, and I am still playing the game I paid for", as a prerequisite for acceptance. In this way, the handicap of the participant not knowing what MMO games are and not having a purchasing experience was not encountered.

Convenience sampling and snowball sampling were used in the study. Considering the speed and economic constraints of the research, convenience sampling was used at the point of initiating the research and snowball sampling was used by reaching the circles of the participants reached. In terms of combining the two techniques, it can be said that multilevel sampling was used in this study. No proportional difference was aimed at determining the study sample (p=0.5, q=0.5). Thus, it was decided to study with at least 384 participants in accordance with the sampling theory. A total of 812 questionnaires were collected for the study between 01.01.2024-25.02.2024. Biased and inappropriate answers to the questionnaire statements (marking only one choice, repeating a distinct pattern in the answer choices, etc.) and questionnaires with incomplete information were excluded from the study. Thus, the data set consisting of 772 participants and demographics about them was used in the study. As a result, the strength of the sample was calculated as 96.5%, and it was decided to proceed with the study.

3.2 Respondent Profiles

Considering the information obtained from the participants, gender, education level, age, income, and marital status data were collected to understand the population. It was observed that 69.3% (n=535) of the participants were male, whereas 30.7% (n=237) were female. When the educational status of the participants was analysed, it was calculated that the group with the least number of participants was secondary education, with 27 people (3.5%), the number of participants with vocational school degrees was 191 (24.7%), the number of post-graduate participants was 136 (17.6%). The bachelor's degree group was the largest, with 418 people (54.1%). Due to the nature of the study, the age groups were combined to include younger participants. Participants aged 18-24 were 61.1% (n=472), 25-31 were 26% (n=201), 32-38 were 7.3% (n=56) and 38+ were 5.6% (n=43). It was calculated that most participants had a low-income level (54.4%, n=420). The second most crowded group according to income level is the high-income group (35.1%, n=271). The group with the most minor participants is the middle-income group (10.5%, n=81). Finally, most participants were single (73.4%, n=567), while the remaining were married (26.6%, n=205).

After the errors in the participants' answers were eliminated, the data set was made suitable for analysis, and the basic assumptions were studied first. After the basic assumptions were met and the necessary arrangements were made, testing the hypotheses and the results were interpreted. Ethics committee approval was obtained from the Social Sciences Scientific Research Proposal Ethical Evaluation Board of Sivas Cumhuriyet University with the decision dated 23.11.2023 and numbered 2023/13.

3.3. Reliability and Validity

With the measurement model created, the reliability and validity results of the constructs used in the research were tested. Researchers did a Confirmatory Factor Analysis (CFA) for validity and reliability. The software calculated model fit measures as SRMR =0.051, $\chi 2$ =4457.716, $\chi 2$ / df=4.2, NFI =0.863. Finally, GoF=0.544 (goodness of fit) indicates that the model fit is "very good". The constructs ' incremental and discriminant validity and internal consistency reliability were investigated through factor analysis. Factor loadings and average variance explained (AVE=Average Variance Extracted) coefficients of the statements measuring the constructs were calculated for incremental validity. Cronbach's Alpha and composite reliability (CR=Composite Reliability) values were checked for internal consistency reliability. According to Hair et al. (2006, 2022), the factor loadings of the statements should reach ≥0.70, the Cronbach's Alpha and CR coefficients of the variables should reach ≥0.70, and the AVE value should reach ≥0.50. Table 1 shows the results of the measurement model created for the variables.

Table 1. Measurement Instruments and Results of the CFA Model

Construct	Loadings	Mean±SD	Cronbach's Alfa	CR	AVE
Online Game Addiction (OGA)		3.30±0.91	0.979	0.980	0.692
How often do you say you are experiencing streaming while playing MMO games?	0.833				
Do you feel like you don't experience streaming while playing MMO games?	0.831				
Do you feel the flow while playing MMO games?	0.849				
I don't notice how time flies while playing MMO games.	0.841				
I can lose track of time while playing MMO games.	0.881				
I can quickly figure out what to do when playing MMO games.	0.846				
My self-confidence is very high when playing MMO games.	0.816				
My skill level is very high when playing MMO games.	0.834				
Playing MMO games allow me to unwind and relax from day's stress.	0.847				
I play MMO games to escape from the real world.	0.777				
I play MMO games; so I can forget about school, work or other things and relax.	0.813				
Being strong in MMO games is important to me.	0.818				
I play MMO games to compete with other players.	0.817				
I play MMO games to dominate other players.	0.800				
The rewards (trophies, armor, weapons, etc.) I earn in MMO games makes me curious.	0.808				
The fiction (story) in the MMO games makes me curious.	0.858				
MMO games allows me to navigate through imaginary environments.	0.840				
My sleep patterns are disturbed when I play MMO games.	0.832				
I get angry when someone blocks me while playing MMO games.	0.850				

To win a game, I lost in MMO games, I need to play again.	0.841				
When I am not playing MMO games, I dream of the time when I will play MMO games.	0.858				
Playing MMO games is more fun than being with my friends.	0.802				
Affiliation (Aff)		3.17±1.07	0.900	0.902	0.833
I chat with other gamers who share my own interests.	0.910				
I find other consumers who are interested in the same items as I am.	0.917				
I interact with other shoppers in the MMO game community.	0.912				
Early Adoption (EA)		3.04±1.04	0.918	0.918	0.803
I keep up with new trends in MMO games.	0.857				
I am getting to create a new "image" for myself in the MMO community.	0.910				
I would be one of the first have to latest in MMO games or in-game items.	0.922				
I keep up with newest MMO games and in-game items.	0.894				
Price Negotiation (PN)		3.03±1.01	0.933	0.937	0.788
I bargain over the price of a MMO game item through an online auction.	0.889				
I would be the winning bidder in an online auction of the MMO game.	0.905				
I haggle over the price of a game item.	0.906				
I submit online bids for game item.	0.848				
I bargain with a website on the price of a game item.	0.890				
Stimulation Seeking[a] (SS)		3.10±0.99	0.718	0.731	0.641
I interact with websites and game forums that I am interested in.	0.722				
I see interesting websites and game forums while shopping.	0.865				
I just look around at interesting websites and game forums.	0.807				
Customer Engagement[b] (Knowledge) (CE)		3.28±0.97	0.757	0.761	0.671
I provide feedback about my experience with the MMO game on forums with other players and the game developers.	0.820				
I provide suggestions for improving the performance of the MMO game I play.	0.846				
I provide feedback/suggestions for developing new goods and services for the MMO game I play.	0.791				
Willings to Pay More (Loyalty) (WTPm)		3.15±0.94	0.856	0.857	0.699
I am likely to pay a little more for items in the MMO game I play.	0.838				
Price is not an important factor in my decision to remain with the MMO game I play.	0.818				
If the MMO game I play were to raise the price by 10%, I would likely remain.	0.866				
I am willing to pay more for the MMO's items and services.	0.821				

a: "I enjoy searching for interesting websites while surfing the Internet." This statement of the stimulation-seeking scale was excluded from the study due to low factor loadings (.444).
b: "I give feedback/suggestions about new products of the online gaming brand.", This statement of the customer engagement scale was excluded from the study due to low factor loadings (.646).

Hair et al. (2022) suggest that factor loadings should be ≥ 0.708. The factor loadings of "Question 3" of the SS variable and "Question 3" of the CE variable were calculated below the threshold value. Since the variables' AVE and CR values were below the threshold value, these statements were removed from the measurement model.

Since the Cronbach's Alpha coefficients of the constructs after editing were between 0.841 and 0.979 and the CR coefficients were between 0.719 and 0.979, it can be said that internal consistency reliability was achieved. When the values in the table are analysed, it can be stated that convergent validity was achieved since the factor loadings were between 0.722 and 0.922, and the AVE values were between 0.641 and 0.833. The Heterotrait-Monotrait Ratio of Correlations (HTMT) criterion proposed by Henseler, Ringle & Sarstedt (2015) was used to determine the discriminant validity. The HTMT coefficients realised according to the analysis results are seen in Table 2.

Table 2. Fornell-Larcker and (HTMT) Coefficients

	OGA	Aff	EA	PN	SS	CE	WTPm
OGA	0.832						
Aff	0.731 (0.777)	0.913					
EA	0.727 (0.765)	0.598 (0.655)	0.896				
PN	-0.032 (0.037)	0.020 (0.032)	-0.011 (0.018)	0.887			
SS	0.697 (0.806)	0.535 (0.643)	0.650 (0.773)	-0.022 (0.048)	0.744		
CE	0.615 (0.705)	0.469 (0.557)	0.568 (0.666)	0.108 (0.131)	0.652 (0.883)	0.734	
WTPm	0.784 (0.855)	0.636 (0.722)	0.697 (0.784)	-0.036 (0.040)	0.695 (0.858)	0.632 (0.775)	0.836

OGA: Online Game Addiction, Aff: Affiliation, EA: Early Adoption, PN: Price Negotiation, SS: Stimuli Seeking, CE: Customer Engagement, WTPm: Willings to Pay More

According to the criterion of Henseler, Ringle & Sarstedt (2015), HTMT is the ratio of the mean of the correlations of the statements of all variables in the study to the geometric mean of the correlations of the statements of the same variable. The authors stated that the HTMT value should theoretically be below 0.90 for close concepts and below 0.85 for distant concepts. All analyses in the rest of the study continued with the obtained variable. As can be seen from the statistics obtained after the adjustment, the HTMT coefficients in Table 2 are calculated below the threshold value. Therefore, it can be stated that the discriminant validity is ensured.

4. Results

Partial least squares path analysis (PLS-SEM) was used to analyse the research model. Data were analysed using the SmartPLS Software (v4). The PLS algorithm was run to calculate linearity, path coefficients, and R^2 for the research model. t values were calculated by taking 10,000 sub-samples from the resampling (bootstrapping) to evaluate the significance of PLS path coefficients. The software calculated the model fit criteria as SRMR =0.047, $\chi 2$ =4218.044, $\chi 2$ /df=3.9, NFI =0.864.

The fact that there is no difference between the model and the empirical correlation results shows the model's validity. Otherwise, it is interpreted that the values obtained in the model are random. The results of The Squared Euclidean Distance=2.796 (d_ULS) and The Geodesic Distance=1.023 (d_G) calculated for this purpose indicate that the validity of the model is ensured (p>0.05).

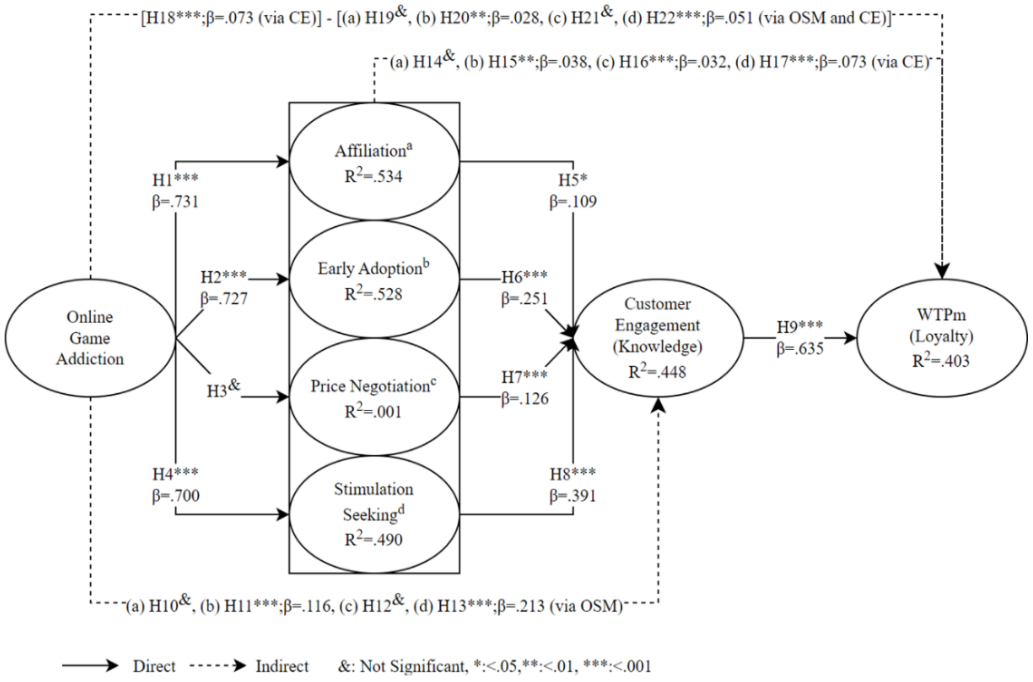

Figure 1. Structural Model

The hypotheses in the study were analysed in three different stages. The first stage involves the direct interaction between the variables. These hypotheses are coded as H1-H9. The next stage includes one-tier mediation. Among these, hypotheses H10-H13 are coded for the path OGA→OSM^{a,b,c,d}→CE, hypotheses H14-H17 for the path OSM^{a,b,c,d}→CE→WTPm, and hypotheses H18 for the path OGA→CE→WTPm. The last stage involves multi-layer mediation. In this model, where the effect of OGA on WTPm is examined with environmental conditions, OGA→OSM^{a,b,c,d}→CE→WTPm path is examined with hypotheses H19-H22.

In the analyses conducted for the first stage, it was calculated that OGA affected Aff (H1: Supported), EE (H2: Supported) and SS (H4: Supported) variables. However, this interaction between the OGA variable and PN was not found (H3: Not Supported). It is seen that all of the OSM sub-dimensions (H5-H8: Supported) affect the CE variable. Finally, the effect of the CE variable (H9: Supported) on the WTPm variable is statistically significant.

In the single-layer mediation analyses conducted in the second stage of path analysis, the OGA→OSM[a,b,c,d]→CE path was examined first. According to the results, the OGA variable affects the CE variable through the EA (H11: Supported) and SS (H13: Supported) variables. However, the same mediation effect was not achieved with Aff (H10: Not Supported) and PN (H12: Not Supported) variables. When the mediation of the CE variable between OSM sub-dimensions and WTPm variables was examined, it was calculated that the mediation of EA (H15: Supported), PN (H16: Supported) and SS (H17: Supported) variables were significant. The mediation effect in this path is not observed with the Aff variable (H14: Not Supported). Another significant mediation effect was calculated as the effect of the CE variable (H18: Supported) between the OGA and WTPm variables.

In the last stage of the path analysis, multi-layer mediation effects were examined. In the model in which OGA→OSM[a,b,c,d]→CE→WTPm path was analysed, it was calculated that the mediation paths of EA→CE (H20: Supported) and SSàCE (H22: Supported) were statistically significant. However, it was understood that Aff did not provide the same significant mediation. →CE (H19: Not Supported) and PN→CE (H21: Not Supported).

5. Discussion and Implications

5.1. Theoretical Implications

The results show that WTPm is positively affected directly and indirectly by the level of dependency on OGA. Therefore, it is similar to many theoretical and practical studies in the literature that are associated with willingness to pay (Jones, Taylor & Bansal, 2008; Rezai & Godsi, 2014; Yoo, 2015; Huang, Bao & Li, 2017; Balakrishnan & Griffiths, 2018; Cakici & Tekeli, 2021; Yasir & Agus, 2021; Putra & Wahyudi, 2022; Lawrence et al., 2023; Lestari, Nitisanjaya & Susanto, 2023; Thomas, 2023). The differentiating aspect of these studies is that the results try to explain the consumption behaviour of MMO players with different levels of WTPm. At the same time, this study shows that WTPm is affected directly by CE and indirectly by OSM variables. Thus, the findings showed that in-game purchasing in MMO games can increase consumers' willingness to pay.

Past studies on addiction generally study socially widespread and massively influential outcomes such as alcohol, tobacco, gambling, etc. With changing demographic and socio-economic conditions, internet and gaming addiction has also become a problematic part of daily life. In addition to consumers' addiction levels affecting their current willingness to pay, environmental factors (such as OSM) have also been observed to mediate this willingness. In their study, Lestari, Nitisanjaya & Susanto (2023) clearly showed that the perception of "good price" influences purchase intention. No study in the literature discusses sequential mediation effects in such a comprehensive manner. In this respect, the study is believed to contribute to the literature.

Wenzel & Benkenstein (2018) showed that shopping with the community increases purchase motivation, which can be applied to the purchasing behaviour of MMO players in the online community. From this perspective, the current study is a successful example of how online purchasing is characterised as aligned with today's purchasing behaviour rather than physical purchasing. In the calculations made in the present study, it was calculated that OSM has a direct effect on WTPm and an indirect effect through the mediation of EA and SS. At the same time, the mediation of EAàCE and SSàCE are also calculated to affect WTPm. However, Aff and PN variables do not have any mediating effect on WTPm. The absence of such a study (the present) subjecting consumers' WTPm in the context of addiction and shopping motivation obviously contributes to the literature.

Like the present study, Huang, Bao & Li (2017) measured that the purchase intentions of M-SNG players may change through entertainment, flexibility, and immersion during the game. In the present study, the CE approach includes community sharing with other consumers after experiencing MMO games, and developer sharing aims to increase the game. Therefore, the CE approach in the present study comprises social motivation (Yasir & Agus, 2021) and customer loyalty (Gao & Huang, 2021; Thomas, 2023). In our research, CE directly affects WTPm and can mediate between OGA and WTPm. At the same time, EA, SS, and CE variables can mediate the OGAàWTPm path. Hence, it is seen that the level of communication with other players and game producers after the game experience of MMO players at different OGA levels affects their continuity at the point of purchase.

5.2. Managerial Implications

As of 2022, this study offers many important implications for investors who continue to exist in the video game market with a volume of $95 B and plan to enter this market. This study, which is vital for marketing professionals to show consumer behaviour patterns for particular market segments, emphasises the importance of shopping motivation in physical and virtual products. Similarly, it is possible to talk about shopping motivation through social interaction in physical environments and the OSM through social interaction in virtual environments. MMO game producers should increase the presence of social interaction and the entertainment element in games. They can do this through communication with MMO communities and MMO developers (Lu & Wang, 2008). This approach will be possible with the CE variable in this study.

The direct and mediator effects obtained from the study have implications for finance, marketing, and psychology. First, it is clear from the literature that a new approach in psychology is needed as the concept of addiction moves to the virtual dimension. The fact that players' loyalty is affected by hedonic motivations and purchase intentions (Yasir & Agus, 2021), internet addiction to online shopping, and making consumers open to marketing communication (Köksal, 2015) emphasise the impact of consumer psychology on purchasing behaviour. Therefore, with the evolution of consumption habits to virtual environments, MMO developers will need to meet the demands of addicted consumers effectively. Since addiction is at stake, MMO players' emotional reactions (Cakici & Tekeli, 2021) and consumers' tendency to seek novelty and variety (Koschate-Fischer et

al., 2018) lead them to over-consume. Therefore, it is understood from this study that a wide range of psychological states of MMO players can be measured, from hedonic consumption approaches to mindful and responsible consumption approaches. It is thought that studies that study the source and emergence mechanism of OGA and the sources of internet addiction will contribute to the science of marketing.

6. Limitations and Future Research

This study has limitations, as in all studies in social sciences. Regarding the approaches it considers, the study only deals with MMO players. As an advantage, it did not address a specific game genre or platform, as stated by Huang, Bao & Li (2017). However, this can be considered a disadvantage when customising the study results. From this point of view, the study can be repeated by finalising the virtual addictions and the study population (demographic and economic situations).

Although the concepts used in the study have been frequently used in business science from past to present, and therefore essential inferences have been made in terms of reflecting them on current consumption habits, it is thought that it would be helpful to contribute to the literature with the approaches of virtual business in the virtual environment. As the objects that consumers are addicted to change, the sources and reasons for addiction may also change. For this reason, the study is essential in capturing the current approach and may also give direction to branches of science such as psychology, psychiatry, child development, adolescent psychology, etc.

Evaluations that will increase the social interaction of the players can be measured with additional studies. The use of team or individual reward logic in the studies, i.e. the examination of gamification, can bring a new dimension to the study. New product proposals, especially targeting motivations such as 'early adoption', can increase players' loyalty and repurchase tendency. MMO games can encourage players' willingness to pay by implementing different payment models such as freemium models. In this way, even players with low willingness to pay can be attracted to the system. In-game information and awareness raising programmes can be developed against the risk of game addiction. This can help players to gain a responsible consumption awareness and prevent possible addiction risks. Thus, the study will be enriched in terms of diversification of shopping motivations, diversification of economic models within the game and psychological support/ awareness programmes.

Since this study involves MMO players who already pay for games in some aspect, selecting the OSM scale sub-dimensions needs some experience. A similar analysis can be done to investigate different purchase motivations of people who do not have previous experience in a particular field.

Ethics Committee Permission

The fieldwork of this article was approved by the Ethics Committee Permission with the dated 23.11.2023 and order number 2023/13, which was obtained at the meeting of the Social Sciences Ethics Committee of Sivas Cumhuriyet University, numbered: 11.

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